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EXAMINER	
SHAW, PELING ANDY	
ART UNIT	**PAPER NUMBER**
2144	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/046,912	LIM, YONG-JUN	
	Examiner	Art Unit	
	Peling A. Shaw	2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9,10 and 16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7, 9-10 and 16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

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DETAILED ACTION

Continued Examination under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/31/2007 has been entered. Claims 1, 3-5, 7 and 9 are amended. Claim 16 is new. Claims 1-7, 9-10 and 16 are currently pending.

2. Amendment received on 06/20/2007 was entered. Claims 1, 7 and 9 were amended. Claims 14-15 were cancelled.

3. Applicant's submission filed on 01/04/2007 was entered. Claims 1, 7 and 9 were amended.

4. Amendment received on 06/23/2006 was entered into record. No claim was amended.

5. Amendment received on 11/14/2005 was entered. Claims 14-15 were new.

6. Amendment received on 03/15/2005 was entered. Claims 1, 4, 7 and 9 were amended. Claims 2-3, 5-6 and 10 are original. Claims 8 and 11-13 were canceled.

Priority

7. This application claims a priority # Republic of Korea 2001-38804 on 06/30/2001. The filing date is 01/17/2002.

Claim Rejections - 35 USC § 112, first paragraph

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 4 and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the original specification and claims in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

a. Claims 4 and 16 recite the limitation of "the at least one failure of the network device and the at least one failure of the network is a failure which is checked during the erasing the old version of the software or the copying the information" and "wherein the at least one failure of the network device and the at least one failure of the network is a failure which is checked during the storing the copy of the old version of the software or the downloading the software through the network" that are not found in the original specification or claims. Applicant has described the limitation of mentoring the failure of network device extensively through applicant's original specification and toughed upon this subject matter in the original claim set. Applicant did not describe the limitation of monitoring the failure of network and touched upn the subject only in the original claims 4 and 12-13 without further detailing under what circumstance when the failure of network occurs. Thus it is not proper to amend a limitation to connect the failure of network with a condition under which the failure of network occurs. There these changes modify the scope of the invention and introduce new subject matter into the application. It would require undue experimentation for one of ordinary skill in the networking art at the time the

invention was made to be able to add and test all these functions inclusively rather than just pick a particular function for implementation. Claims 4 and 16 are thus rejected. For the purpose of applying art, the limitations are read in light of applicant's original specification and claim langugage.

Appropriate corrections are required.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7 and 9-10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. (US 5568641 A), hereinafter referred as Nelson and in view of Abgrall (US 6401202 B1), hereinafter referred as Abgrall and Kurihara (JP411328040A), hereinafter referred as Kurihara.

a. Nelson shows (claim 1) a network device (abstract, lines 18-20: system) capable of upgrading software through a network (column 1, line 36-45: new firmware downloaded and copied), comprising: monitoring means for monitoring at least one failure of the network device while the software is being upgraded (column 4, lines 18-30: Processor 20 is capable of these functions so that it can determine the status of a firmware upgrade and whether the upgrade was disrupted or not); a first memory for storing data necessary for operating the network device (abstract, lines 1-14: boot

block); a second memory for storing information transferred through the network (column 1, line 36-45: new firmware downloaded and copied), wherein said second memory is a separate unit from said first memory (abstract, lines 1-14: separately erasable/writable blocks of memory); a controller (abstract, lines 1-14: processor) for performing control to store the information, which is downloaded through the network to upgrade the software (column 1, line 36-45: new firmware downloaded), in the second memory , and store an old version of the software in an empty area of the first memory before the old version of the software stored in the first memory is upgraded with the information stored in the second memory (column 2, lines 22-40: boot block copied to alternate boot block before boot block erased and burned with new firmware); and a decoder for selecting either the first memory or the second memory, which is used for upgrading the software, according to a control signal received from the controller and a result of monitoring received from the monitoring means, and setting an address (Fig. 1A: DECODE and NVMEMBIT, XOR, ADDRESS LINES). Nelson does show (claim 1) a conditional access system (CAS) for verifying whether the network device has authority to upgrade the software; wherein the monitoring means further monitors whether at least one failure occurs in the network.

b. Abgrall shows (claim 1) a conditional access system (CAS) for verifying whether the network device has authority to upgrade the software (column 4, lines 1-7: proper user authorization to download software modules including drivers, applications and

additional payloads via Internet connection) in an analogous art for the purpose of multitasking during BIOS boot-up.

c. Kurihara shows (claim 1) wherein the monitoring means further monitors whether at least one failure occurs in the network (abstract, line 3-5: download fault from higher order station to base station) in an analogous art for the purpose of memory readout control.

d. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Nelson's functions of powerfail durable flash EEPROM upgrade to include Abgrall's functions of authorizing user to allow download drivers, applications and additional payloads and Kurihara's functions of checking download fault.

e. The modification would have been obvious because one of ordinary skill in the art would have been motivated to include the network failure consideration in the download phase of firmware (or any software) upgrading per Kurihara's teaching and proper user authorization before download and upgrade drivers and application per Abgrall's teaching in the software/firmware upgrade per Abgrall (column 3, lines 45-49), Kurihara (abstract) and Nelson (column 2, lines 22-32)'s teachings.

f. Regarding claim 2, Nelson shows (Fig. 1A; column 2, lines 22-49) wherein the controller provides a control signal to the decoder to copy the old version of the software to the empty area of the first memory (alternate boot block), erase the old version of the software stored in an original area of the first memory (primary boot

block), and copy the information stored in the second memory (new firmware) to the original area of the first memory (primary boot block).

g. Regarding claim 3, Nelson shows (column 2, line 33-37; column 4, lines 18-30) wherein the monitoring means monitors whether the at least one failure occurs in a network device such as a power failure or hang-up of the network device (Processor 20 is capable of these functions so that it can determine the status of a firmware upgrade and whether the upgrade was disrupted or not.).

h. Regarding claim 4, Nelson shows (column 2, lines 33-40: power failure during upgrade) and Kurihara shows (abstract, line 3-5: download fault from higher order station to base station) wherein the at least one failure of the network device and the at least one failure of the network is a failure which is checked during the erasing the old version of the software or the copying the information.

i. Regarding claim 5, Nelson shows (Fig. 1A; column 2, lines 15-19 and 23-28; column 4, lines 18-30) wherein when the decoder receives a signal, indicating that at least one failure (Processor 20 is capable of these functions so that it can determine the status of a firmware upgrade and whether the upgrade was disrupted or not) has occurred, from the monitoring means while the software is being upgraded, the decoder returns to the initial state of the network device (alternate boot block).

j. Regarding claim 6, Nelson shows wherein when at least one failure occurs while the old version of the software is being upgraded, after the old version of the software is copied to the empty area of the first memory (column 2, lines 15-19: boot block copied to alternate boot block) , the decoder operates so that the network device can

be restarted (column 4, lines 18-30: NVMEMBIT and XOR are used for upgrade control) based on the old version of the software (column 2, lines 15-19 and 23-28: alternate boot block containing the old primary boot information).

k. Regarding claim 7, Nelson shows (in abstract, lines 6-14 and 18-20, column 1, line 36-45; column 2, lines 22-40, Fig. 1A and Fig. 2; column 4, lines 18-30) a network device (system) capable of upgrading software through a network, comprising: monitoring means for monitoring whether at least one failure of the network device occurs while the software is being upgraded (Processor 20 is capable of these functions so that it can determine the status of a firmware upgrade and whether the upgrade was disrupted or not.); a first memory for storing first data necessary for operating the network device (primary boot block); a second memory for storing second data necessary for operating the network device (alternate boot block); a third memory for storing information transferred through the network (new firmware downloaded); a controller for performing control to store information, which is downloaded through the network to upgrade the software, in the third memory, and store a copy of an old version of the software in an empty area of the second memory before the old version of the software stored in the first memory is upgraded to the information stored in the third memory (processor); and a decoder for selecting one of the first memory, the second memory, and the third memory, which is used for upgrading the software, according to a control signal received from the controller and the result of monitoring received from the monitoring means, and setting an address (DECODE and NVMEMBIT, XOR, ADDRESS LINES); and wherein said first

memory, second memory, and third memory are separate memory units (separately erasable/writable blocks of memory). Abgrall shows a conditional access system (CAS) for verifying whether the network device has authority to upgrade the software (column 4, lines 1-7: proper user authorization to download software modules including drivers, applications and additional payloads via Internet connection). Kurihara shows wherein the at least one failure is one of at least one failure of the network device and at least one failure of the network (abstract, line 3-5: download fault from higher order station to base station).

1. Regarding claim 9, a method for upgrading software of a network device (abstract, lines 18-20: system) through a network (column 1, line 36-45: new firmware downloaded and copied), the method comprising the steps of: upgrading the software through the network (column 1, line 36-45: new firmware downloaded and copied) and checking whether at least one failure occurs during the upgrade (column 4, lines 18-30: Processor 20 is capable of these functions so that it can determine the status of a firmware upgrade and whether the upgrade was disrupted or not); when it is determined that at least one failure has occurred (column 4, lines 18-30: NVMEMBIT and XOR are used for upgrade control), operating the network device based on an old version of the software used before the upgrade was performed (column 2, lines 15-19 and 23-28: alternate boot block containing the old primary boot information); and when it is determined that at least one failure has not occurred, operating the network device based on a new version of the software to which the old version was upgraded, wherein the upgrading of the software comprises the steps of: downloading the new

version of the software through the network and storing the new version of the software in a second memory of the network device (column 1, line 36-45: new firmware downloaded and copied); copying the old version of the software stored in a first area of a first memory of the network device to a second area of the first memory of the network device (column 2, lines 22-40: boot block copied to alternate boot block); erasing the old version of the software from the first area of the network device (column 2, lines 22-40: boot block erased); and transferring the new version of the software from the second memory of the network device and storing the new version of the software in the first area of first memory of the network device (column 2, lines 22-40: boot block burned with new firmware), wherein said second memory is a separate unit from said first memory (abstract, lines 1-14: separately erasable/writable blocks of memory). Abgrall shows performing user authentication for the network device if upgrading of the software is started (column 4, lines 1-7: proper user authorization to download software modules including drivers, applications and additional payloads via Internet connection). Kurihara shows wherein the monitoring means further monitors whether at least one failure occurs in the network (abstract, line 3-5: download fault from higher order station to base station).

m. Regarding claim 10, Nelson shows (column 1, lines 45-57) wherein the at least one failure is a failure in the network device which is checked during the erasing and storing steps (considerations of power failure or other disruptions).

n. Regarding claim 16, Nelson shows (column 2, lines 33-40: power failure during upgrade) and Kurihara shows (abstract, line 3-5: download fault from higher order station to base station) wherein the at least one failure of the network device and the at least one failure of the network is a failure which is checked during the storing the copy of the old version of the software or the downloading the software through the network.

Together Nelson, Abgrall and Kurihara disclosed all limitations of claims 1-7 and 9-10 and 16. Claims 1-7 and 9-10 and 16 are rejected under 35 U.S.C. 103(a).

Response to Arguments

10. Applicant's arguments filed on 10/31/2007 have been fully considered, but they are not persuasive.

a. Applicant has amended claims. Examiner has reviewed the changes in light of applicant's original specification and claim language. Examiner has reviewed the claim rejections and applied prior art as per office action dated 09/04/2007. Examiner has found the applied prior arts, i.e. Nelson, Abgrall and Kurihara, are still applicable to the current claim set. Claim rejections are updated to reflect the claim language changes and cited references from prior arts.

b. Applicant asserts to maintain the previous arguments as of previous amendment dated 06/20/2007. Examiner would maintain the Response to Arguments as per office action dated 09/04/2007.

c. Applicant has argued that Abgrall does not teach or suggest a CAS for verifying whether the network device has authority to upgrade the software. Abgrall has shown (column 4, lines 1-7) proper user authorization is required to download software modules including drivers, applications and additional payloads via Internet connection. Abgrall in combinatory with Nelson and Kurihara have shown all limitations of claim 1. Nelson, Abgrall and Kurihara are all in the general art of software downloading and upgrading. It is obvious that the authentication functions per Abgrall could be combined to provide more secure software upgrade as per Abgrall's suggestion (column 4, lines 1-7).

d. Applicant's further argument on Nelson does not teach or suggest multiple memory was well discussed in the Response to Arguments as per office actions dated 10/04/2006, e.g. Nelson's usage of "DECODE" for chip select indicates using multiple memories.

e. It is the Examiner's position that Applicant has not submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in manner, which distinguishes over the prior art. As it is Applicant's right to claim as broadly as possible their invention, it is also the Examiner's right to interpret the claim language as broadly as possible. It is the Examiner's position that the detailed functionality that allows for Applicant's invention to overcome the prior art used in the rejection, fails to differentiate in detail how these features are unique (see items a-e in section 9). Nelson and Abgrall have shown software/firmware upgrade in the network environment with Nelson's specific description how firmware would be upgraded in booted memory sections. It is clear that Applicant must be able to submit claim language to distinguish over the prior arts used in the above rejection sections that discloses distinctive features of Applicant's claimed invention. It is suggested that Applicant compare the original specification and claim language with the cited prior art used in the rejection section above or the Remark section below to draw an amended claim set to further the prosecution.

f. Failure for Applicant to narrow the definition/scope of the claims and supply arguments commensurate in scope with the claims implies the Applicant's intent to broaden claimed invention. Examiner interprets the claim language in a scope

parallel to the Applicant in the response. Examiner reiterates the need for the Applicant to more clearly and distinctly define the claimed invention.

Remarks

11. The following pertaining arts are discovered and not used in this office action. Office reserves the right to use these arts in later actions.

a. Galasso et al. (US 6148387 A) System and method for securely utilizing basic input and output system (BIOS) services

b. Dayan et al. (US 5287519 A) LAN station personal computer system with controlled data access for normal and unauthorized users and method

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to the enclosed PTO-892 for details.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peling A. Shaw whose telephone number is (571) 272-7968. The examiner can normally be reached on M-F 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William C. Vaughn can be reached on (571) 272-3922. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the statu9s of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Peling A Shaw
Patent Examiner
Art Unit 2144

pas